Street A at Street B	Street A at Street C	INTERCONNECT	ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION *
						TRAFFIC SIGNAL
20	223		625	243	LF	Conduit, Concrete Encased, 2", 725.051
159	133		625	292	LF	Conduit, Concrete Encased, 3", 725.051
419	248		625	667	LF	Conduit, 2", 725.051
364	364		625	728	LF	Trench, As Per Plan
1	2		625	3	Each	Pull Box, 27", As Per Plan
	2	3	625	5	Each	Pull Box, 32", As Per Plan
		3	625	3	Each	Pull Box, 48", Type 1, As Per Plan
		3	625	3	Each	Pull Box, 725.06, 12" x 18" (Traffic)
		6	625	6	Each	Pull Box Removed, As Per Plan
11	10		625	21	Each	Ground Rod
273	341		625	614	LF	No. 4 AWG, 600 Volt Distribution Cable, As Per Plan
	1		625	1	Each	Bracket Arm, 25', As Per Plan
	1		625	1	Each	Bracket Arm, 30', As Per Plan
		658	625	658	LF	Conduit, Misc.: Encased Interconnect Conduit Bank, 4-3" & 1-1.5", TC-2, SCH 40, As Per Plan
		54	625	54	LF	Conduit, Misc.: Encased Interconnect Conduit Bank, 2-3", 2-2" & 1-1.5", TC-2, SCH 40, As Per Plan
		150	625	150	LF	Conduit, Misc.: Encased Interconnect Conduit Bank, 4-3", 2-2" & 1-1.5", TC-2, SCH 40, As Per Plan
1	1		630	2	Lump	Signing, Misc.: Traffic Signal Signs
4	4		630	8	Each	Sign Support Assembly, Pole Mounted, As Per Plan
1			632	1	Each	Conduit Riser, 2", SCH 80 (Gray), 725.053
6	6		632	12	Each	Vehicular Signal Head, L.E.D., 3-Section, 12" Lens, 1-Way, Polycarbonate, As Per Plan
4	2		632	6	Each	Vehicular Signal Head, L.E.D., 5-Section, 12" Lens, 1-Way, Polycarbonate, As Per Plan
8	8		632	16	Each	Pedestrian Signal Head
4	4		632	8	Each	Pedestrian Pushbutton
10	8		632	18	Each	Covering of Vehicular Signal Head
8	8		632	16	Each	Covering of Pedestrian Signal Head
4	4		632	8	Each	Covering of Pedestrian Pushbutton
	3		632	3	Each	Signal Support Foundation
	1		632	1	Each	Signal Support Foundation (24'), As Per Plan
6	4		632	10	Each	Pedestal Foundation
	1		632	1	Each	Signalization Misc.: Foundation Pre-excavation
1			632	1	Each	Pedestal Support, 5', Transformer Base, As Per Plan
5	4		632	9	Each	Pedestal Support, 10.7', Transformer Base, As Per Plan
1			632	1	Each	Signalization Misc.: Pedestrian Pedestal, Relocated
	1		632	1	Each	Combination Signal Support, Type 4120, Design 4, As Per Plan
	3		632	3	Each	Signal Support, Type 4120, Design 4, As Per Plan
3			632	3	Each	Strain Pole, Type 4170, Design 8, As Per Plan
3			632	3	Each	Strain Pole Foundation
1	1		632	2	Each	Removal Of Traffic Signal Installation, As Per Plan
948	1268		632	2216	LF	Signal Cable, 7-Conductor, No. 14, Awg
804	207		632	1011	LF	Signal Cable, 9-Conductor, No. 14, Awg
310			632	310	LF	Messenger Wire, 7 Strand, 3/8" Diameter with Acessories
310			632	310	LF	Tether Wire, With Accessories
2982	537		632	3519	LF	Loop Detector Lead-In Cable, IMSA 50-2
5			632	5	Each	Detector Loop
68	34		632	102	LF	Power Cable, 2-Conductor, No. 6 AWG
	123		632	123	LF	Service Cable, 2-Conductor, No. 6 AWG
150			632	150	LF	Power Cable, 3-Conductor, No. 6 AWG
1	1		632	2	Each	Power Service, As Per Plan
	1		632	1	Each	Power Meter Cabinet, Base Mount, With Foundation, As Per Plan
	1		632	1	Each	Signalization, Misc.: Stop Line Radar Detection System
		3	632	3	Each	Interconnect, Misc.: Fiber Optic Splice Enclosure, Clamshell, 288 Splice
		3	632	3	Each	Interconnect, Misc.: Termination Panel, 24 Fiber
		456	632	456	Each	Interconnect Cable, Misc.: Fiber Optic Fusion Splice
		385	632	385	LF	Interconnect, Misc.: Fiber Optic Cable, 24 Strand
		970	632	970	Ft	Interconnect, Misc.: Fiber Optic Cable, 144 Strand
		1	632	1	Each	Signalization Misc.: CCTV IP-Camera System
		3	633	3	Each	Controller Item, Misc.: Layer 2 Ethernet Switch
		6	633	6	Each	Controller Item, Misc.: Fiber Optic Ethernet Transceiver, Short Range
1	1		633	2	Each	Cabinet Foundation
1	1		633	2	Each	Controller Unit TS2/A2, With Cabinet 16 CH, Size 6, Ground Mounted, As Per Plan
1			633	1	Each	Controller Work Pad

* – SEE TSDM CHAPTER 2 FOR CURRENT ITEM DESCRIPTIONS.

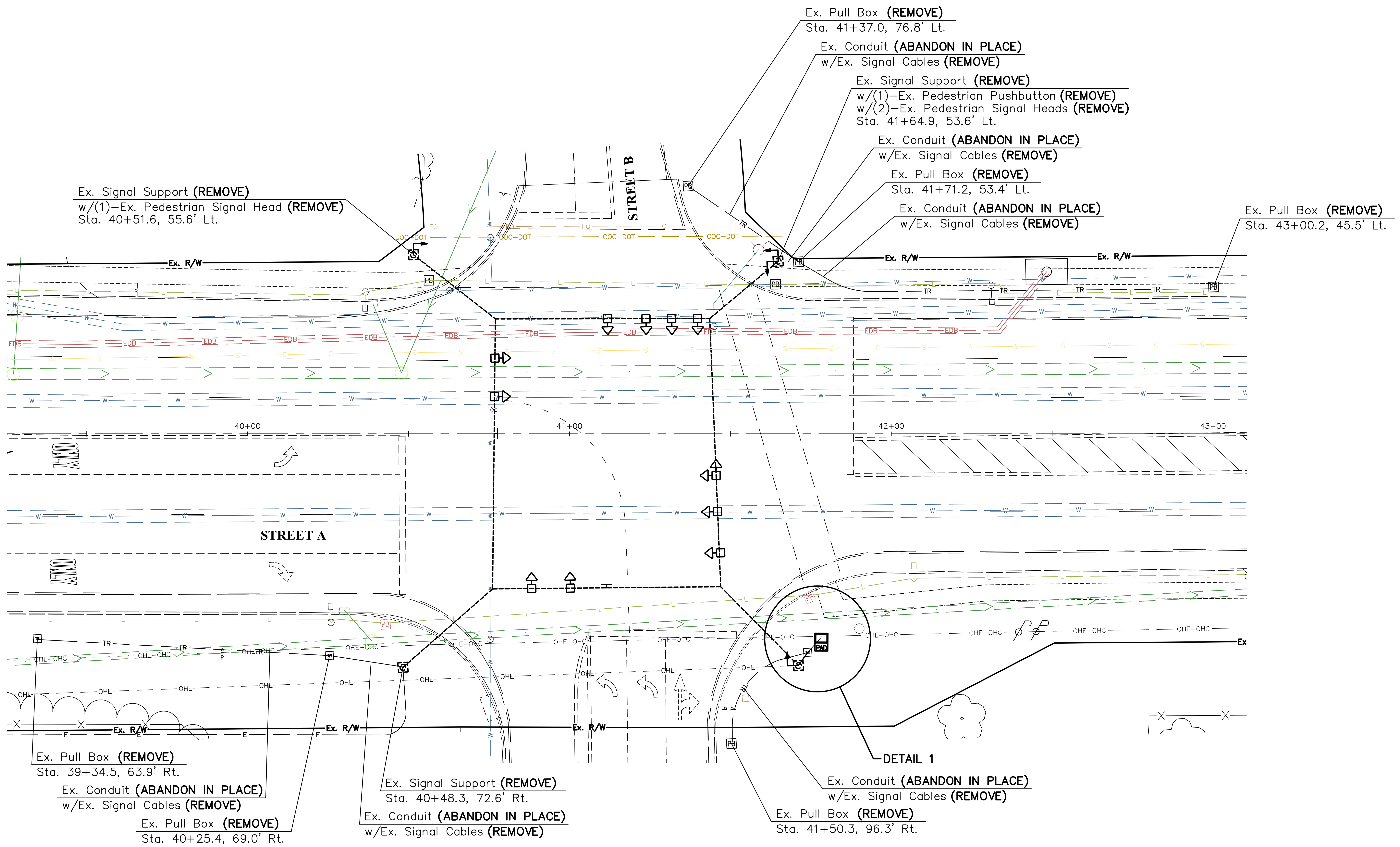
CALCULATED ABC
CHECKED ABC

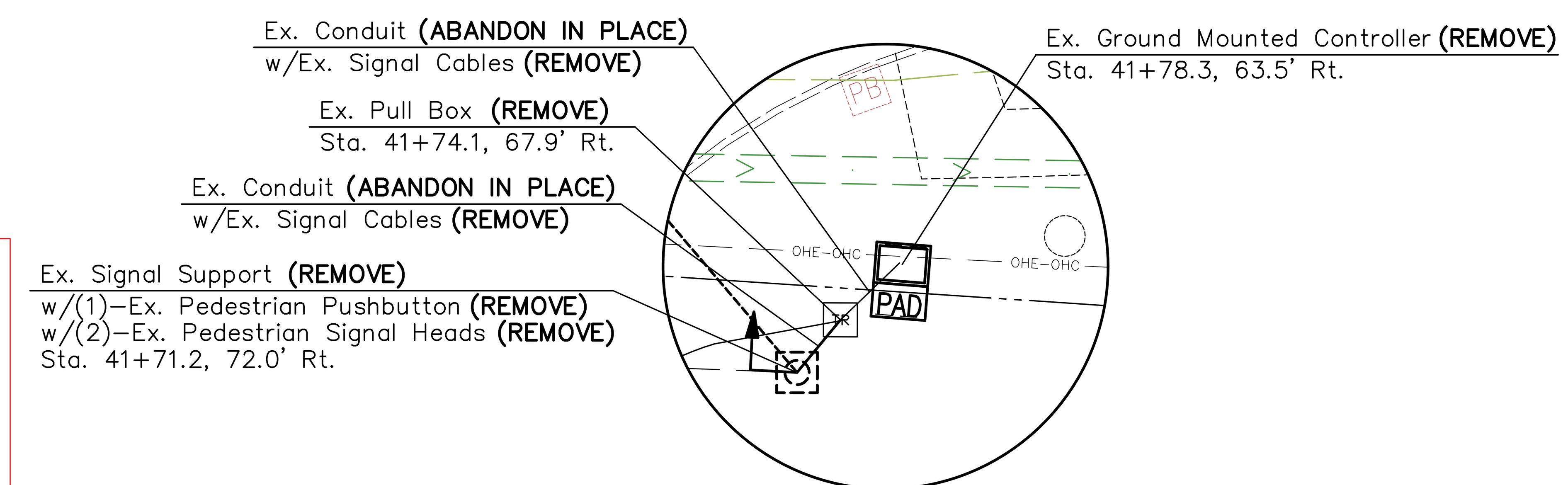
TRAFFIC SIGNAL INSTALLATION
SUB-SUMMARY

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X
XX





DETAIL 1[4]
1"=10'

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED TO 1820 E 17th AV	DISPOSED OF BY PROJECT	REUSED BY PROJECT
1	GROUND MOUNTED CABINET & CONTROLLER	X		
LUMP	SIGNAL CABLE		X	
7	VEHICULAR SIGNAL HEAD	X		
4	PEDESTRIAN SIGNAL HEAD	X		
2	PEDESTRIAN PUSHBUTTON	X		
4	STRAIN POLES	X		
LUMP	MESSENGER WIRE AND ACCESSORIES		X	
7	PULL BOX LIDS & FRAMES	X		
7	PULL BOX CASTING		X	
9	POLE MOUNTED SIGN		X	
2	SPAN WIRE MOUNTED SIGN		X	
5	CABINET/POLE FOUNDATION		X	
LUMP	RADIO INTERCONNECT EQUIPMENT	X		

DESIGNER NOTES:
The traffic signal removal plan sheet should be included when an entire existing traffic signal installation is being completely removed or fully replaced. The traffic signal item removals may be shown on the traffic signal plan sheet when the signal is being modified rather than being fully replaced.

1. Sheet Label
The traffic signal plan view sheet shall be labeled as:
-TRAFFIC SIGNAL REMOVAL PLAN
-TRAFFIC SIGNAL INSTALLATION PLAN (Full rebuilds or new signals) or
-TRAFFIC SIGNAL MODIFICATION PLAN
The intersection shall be labeled in alphabetical order (i.e. Aaa Parkway at Bbb Road)

2. Legend
For a full list of symbols, see TSDM Figure 2.1.

3. North Arrow
The traffic signal plan shall be oriented with north facing up or to the right.

4. Detail Blowup
Corner blowups should be included whenever a smaller scale is required in order to reasonably follow callout leaders or distinguish signal items and other infrastructure. Detail blow ups should be 10 scale and should be on the plan view page. If necessary, the plan sheet notes should be moved to the detail sheet to make room for the detail blow up.

TRAFFIC SIGNAL REMOVAL EXAMPLE PLAN VIEW SHEET

LEGEND[2]

SIGNAL HEADS: PROP. VEHICULAR; EX. VEHICULAR; PROP. PEDESTRIAN; EX. PEDESTRIAN
SIGNAL POLES: PROP. ANCHOR/STRAIN POLE; EX. ANCHOR/STRAIN POLE; EX. EMBEDDED POLE; EX. WOOD POLE; GUY ANCHOR; PROP. PEDESTAL; EX. PEDESTAL; PUSHBUTTON
CONTROLLERS & CABINETS: EX. CABINET W/PAD; PROP. CABINET W/PAD; EX. CABINET (NO PAD); PROP. CABINET (NO PAD)
PULL BOXES: EX. PULL BOX; PROP. PULL BOX
DETECTION: RADAR; RADAR ZONE

XXXX - E

Horz: 1 inch = 20 feet

CALCULATED ABC
CHECKED ABC

TRAFFIC SIGNAL REMOVAL PLAN[1]
STREET A AT STREET B

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X
XX

PROPOSED VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION
HEADS 3 & 4
HEADS 2,5,8,10
HEAD 6
HEADS 1,7,9
PEDESTRIAN SIGNAL HEAD CONFIGURATION
STREET NAME SIGN DETAIL
18" x Varies
Street Name
Pole Mt'd.
FOR PLAN SHEET NOTES SEE SHEET ##
LEGEND
SIGNAL HEADS: PROP. VEHICULAR HEAD EX. VEHICULAR HEAD
PROP. PEDESTRIAN HEAD EX. PEDESTRIAN HEAD
SIGNAL POLES: PROP. ANCHOR/STRAIN POLE EX. ANCHOR/STRAIN POLE
EX. EMBEDDED POLE EX. WOOD POLE GUY ANCHOR
PROP. PEDESTAL EX. PEDESTAL PUSHBUTTON
CONTROLLERS & CABINETS: EX. CABINET W/PAD PROP. CABINET W/PAD
EX. CABINET (NO PAD) PROP. CABINET (NO PAD)
PULL BOXES: EX. PULL BOX
PROP. PULL BOX
DETECTION: LOOP DETECTOR L1A
W23-H2b-30
SIGNAL OPERATION CHANGED
Span Mt'd.
NO TURN ON RED
R10-11a-30
Span Mt'd.
R10-3A-9 (L)
R10-3A-9 (R)
PUSH BUTTON TO CROSS STREET WAIT FOR
N/E-2 S/W-2
N/W-1 S/E-2
WOOD POLE W/NEW (1)-2" CONDUIT RISER, SCH 80 (GRAY), 725.053
STA. 119+12.6, 65.1' RT.
(1)-2" CONDUIT W/(1)-2/C POWER CABLE
ENCASED IN TRENCH = 6'
(1)-AERIAL 2/C SERVICE CABLE = 21'
GROUND MOUNTED CONTROLLER
STA. 119+18.3, 67.1' RT.
EX. UTILITY POLE (TO REMAIN)
STA. 119+16.7, 44.9' RT.
EX. PULL BOX (REMOVE)
STA. 119+19.9, 38.9' RT.
EX. CONDUIT (REMOVE)
(1)-2" CONDUIT W/(4)-2/C
IN TRENCH = 41'
POLE S/W-3 PEDESTRIAN PEDESTAL, 10.7'
W/(1) - PEDESTRIAN SIGNAL HEAD
STA. 119+34.2, 45.1' RT.
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(2)-9/C & (2)-GND
IN TRENCH = 17'
PULL BOX, 32"
STA. 119+33.2, 63.2' RT.
(1)-2" CONDUIT W/(3)-2/C
(1)-2" CONDUIT W/(2)-9/C & (1)-GND
(1)-2" CONDUIT W/(1)-2/C
(1)-2" CONDUIT W/(2)-9/C, (3)-7/C & (1)-GND
(1)-2" CONDUIT W/(9)-2/C
IN TRENCH = 25'
EX. SIGNAL STRAIN POLE (REMOVE)
STA. 119+57.5, 60.6' RT.
EX. PULL BOX (REMOVE)
STA. 119+61.1, 58.6' RT.
EX. CONDUIT W/EX. SIGNAL CABLES (REMOVE)
EX. CONDUIT W/EX. SIGNAL CABLES (REMOVE)
POLE S/W-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 119+62.9, 66.4' RT.
EX. Pedestrian Pedestal (REMOVE)
Sta. 119+63.4, 67.6' Rt.
(1)-2" CONDUIT W/(2)-9/C & (1)-GND
(1)-2" CONDUIT W/(1)-2/C
IN TRENCH = 4'
(1)-2" CONDUIT W/(5)-2/C
IN TRENCH = 30'
POLE S/W-1 SIGNAL STRAIN POLE
STA. 119+55.1, 72.1' RT.
(1)-3" CONDUIT - EMPTY
(1)-3" CONDUIT W/(2)-9/C, (3)-7/C & (3)-GND
(1)-2" CONDUIT W/(9)-2/C
(1)-2" CONDUIT W/(8)-2/C
ENCASED IN TRENCH = 15'
DETAIL 'A'
SCALE 1" = 10'
TC PAD
EX. PULL BOX (TO REMAIN)
STA. 87+56.6, 33.4' LT.
EX. PULL BOX (TO REMAIN)
STA. 119+66.8, 72.7' LT.
(1)-2" CONDUIT W/(5)-2/C
IN TRENCH = 30'
EX. CONDUIT (ABANDON IN PLACE)
REMOVE EXISTING CABLES
EX. GROUND MOUNTED CONTROLLER (REMOVE)
STA. 119+60.1, 51.3' LT.
POLE N/W-1 SIGNAL STRAIN POLE
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 119+62.6, 42.7' LT.
EX. CONDUIT W/EX. SIGNAL CABLES (REMOVE)
EX. SIGNAL STRAIN POLE (REMOVE)
W/(1)-EX. POWER DISCONNECT SWITCH (REMOVE)
W/(2)-EX. PEDESTRIAN SIGNAL HEADS (REMOVE)
W/(1)-EX. PEDESTRIAN PUSHBUTTON (REMOVE)
STA. 119+59.9, 35.3' LT.
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(1)-7/C & (1)-GND
IN TRENCH = 20'
PULL BOX, 27"
STA. 119+50.5, 27.1' LT.
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(1)-7/C & (1)-GND
IN TRENCH = 9'
POLE N/W-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 119+42.2, 24.9' LT.
(1)-AERIAL 2/C SERVICE CABLE = 96'
EXISTING UTILITY POLE
STA. 119+00.3, 28.7' LT.
PROPOSED POWER SOURCE
(EX. DOP TRANSFORMER)
STA. 118+04.0, 28.7' LT.
STREET A
(1)-AERIAL 2/C SERVICE CABLE = 76'
PULL BOX (13"x24")
STA. 119+09.5, 38.5' RT.
INTERCONNECT CONDUIT BANK
SEE SHEET ##
PULL BOX, 32"
STA. 118+80.3, 30.4' RT.
(1)-3" CONDUIT - EMPTY
(1)-3" CONDUIT W/INTERCONNECT CABLES
ENCASED IN TRENCH = 57'
SEE DETAIL 'A'
EX. CONDUIT W/EX. SIGNAL CABLES (REMOVE)
EX. CONDUIT W/ EX. SIGNAL CABLES (REMOVE)
EX. PULL BOX (TO REMAIN)
STA. 119+72.4, 92.9' RT.
EX. CONDUIT W/NEW (4)-2/C = 92'
EX. PULL BOX (TO REMAIN)
STA. 84+48.8, 30.6' LT.
STRAIN POLE / SPAN WIRE EXAMPLE PLAN VIEW SHEET
MATCH LINE STA. 88+00.00 - SEE NEXT SHEET
MATCH LINE STA. 84+25.00 - SEE NEXT SHEET
STREET B
STREET B
STREET A
ONLY
+14
+89
+67.8 38.0' LT.
+54.7 39.4' LT.
+30 +40
+68 58.3' RT.
+62
L2B L2A L5 L3A L3B L8A L8B L4 L7 L1 L6A L6B
EX. CONDUIT W/NEW (3)-2/C = 46'
POLE N/E-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 120+52.4, 54.8' LT.
(1)-2" CONDUIT W/(2)-7/C & (1)-GND
(1)-2" CONDUIT W/(1)-2/C
IN TRENCH = 11'
EX. SIGNAL STRAIN POLE (REMOVE)
W/(2)-EX. PEDESTRIAN SIGNAL HEADS (REMOVE)
W/(1)-EX. PEDESTRIAN PUSHBUTTON (REMOVE)
STA. 120+58.7, 52.7' LT.
PULL BOX, 27"
STA. 120+61.1, 48.0' LT.
INTERCEPT EX. CONDUIT
(1)-2" CONDUIT W/(1)-9/C, (1)-7/C & (2)-GND
(1)-2" CONDUIT W/(3)-2/C
IN TRENCH = 9'
POLE N/E-1 SIGNAL STRAIN POLE
STA. 120+68.1, 53.3' LT.
(1)-2" CONDUIT W/(1)-9/C, (1)-7/C & (1)-GND
(1)-2" CONDUIT - EMPTY
IN TRENCH = 19'
EX. CONDUIT W/NEW (2)-2/C = 39'
EX. PULL BOX (TO REMAIN)
STA. 120+58.1, 24.1' LT.
POLE N/E-3 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 120+70.5, 32.3' LT.
EX. PULL BOX (TO REMAIN)
STA. 120+86.6, 19.6' LT.
EX. CONDUIT W/EX. INTERCONNECT CABLES
(TO REMAIN)
POLE S/E-3 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 120+67.7, 33.6' RT.
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(1)-9/C & (1)-GND
IN TRENCH = 32'
EX. SIGNAL STRAIN POLE (REMOVE)
STA. 85+83.8, 59.9' RT.
POLE S/E-1 SIGNAL STRAIN POLE
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 120+56.5, 57.8' RT.
EX. CONDUIT W/NEW (1)-2/C & (1)-GND = 7'
PULL BOX, 48" (TYPE 2)
STA. 120+50.3, 61.7' RT.
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(1)-2/C & (2)-GND
IN TRENCH = 6'
POLE S/E-2 PEDESTRIAN PEDESTAL, 5'
W/(1)-PEDESTRIAN PUSHBUTTON
STA. 120+47.1, 57.5' RT.
INTERCONNECT CONDUIT BANK
SEE SHEET ##
EX. CONDUIT W/EX. INTERCONNECT CABLES
(TO REMAIN)
EX. PULL BOX (TO REMAIN)
STA. 85+01.3, 42.2' RT.
Horiz. 1 inch = 20 feet
CALCULATED ABC
CHECKED ABC
TRAFFIC SIGNAL INSTALLATION PLAN
STREET A AT STREET B
IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C
XXXX-E
X
XX

DESIGNER NOTES:

1. Sheet Label
The traffic signal plan view sheet shall be labeled as:
-TRAFFIC SIGNAL REMOVAL PLAN
-TRAFFIC SIGNAL INSTALLATION PLAN (Full rebuilds or new signals) or
-TRAFFIC SIGNAL MODIFICATION PLAN
The intersection shall be labeled in alphabetical order (i.e. Aaa Parkway at Bbb Road)

2. Legend
For a full list of symbols, see TSDM Figure 2.1.

3. North Arrow
The traffic signal plan shall be oriented with north facing up or to the right.

4. Detail Blowup
Corner blowups should be included whenever a smaller scale is required in order to reasonably follow callout leaders or distinguish signal items and other infrastructure. Detail blow ups should be 10 scale and should be on the plan view page. If necessary, the plan sheet notes should be moved to the detail sheet to make room for the detail blow up.

5. Plan Sheet Notes
Plan sheet notes should be placed on the plan sheet as space allows. If necessary, the plan sheet notes may be placed on the following detail sheet.

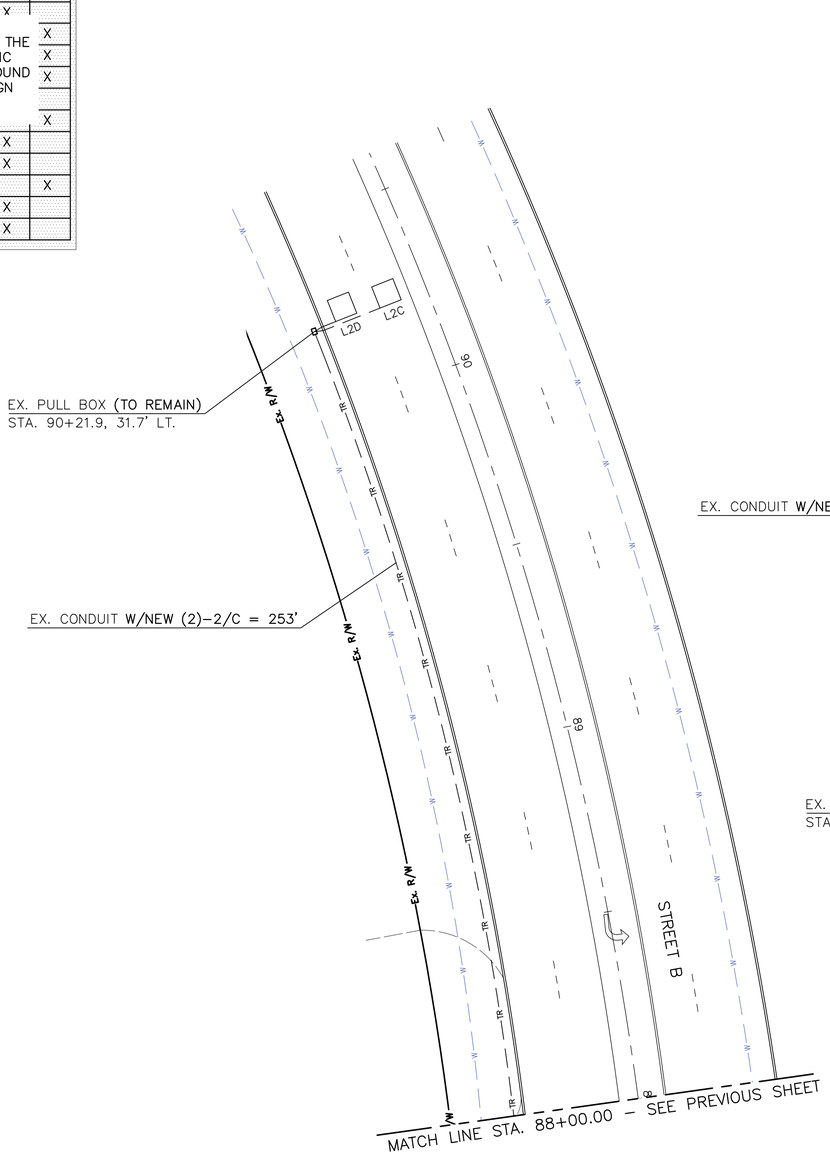
6. Stop Line and Detection Zone/Loop Stationing
The back edge of the stop line and the forward edge of the detection zone or loop shall be labeled with the stationing as shown (i.e. +XX').

ITEM 632 REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			
QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED TO 1820 E 17th AV	DISPOSED OF BY PROJECT
2	TRAFFIC PULL BOX	X	
4	PEDESTRIAN PUSHBUTTON	X	
1	USE THE CURRENT VERSION OF THE REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION CHART FOUND IN THE TRAFFIC SIGNAL DESIGN MANUAL.		X
4			X
1			X
1			
1			X
8	PEDESTRIAN SIGNAL HEAD	X	
8	SIGNAL HEADS	X	
1	POWER SERVICE		X
3	SIGNAL POLES	X	
1	PEDESTAL	X	

PLAN SHEET NOTES:[5]

1. The Contractor shall ensure that all sidewalks/pathways meet ADA guidelines per City specifications.
2. Power, service and interconnect cable shall be continuous with no splices except as noted.
3. For signing and pavement markings, see sheet(s) XX–XX.
4. Center all loops in the center of their lane unless specified otherwise. Install loops after the asphalt surface course is laid.
5. The top of the pole base foundation shall be edged using a 1/2" sidewalk edger instead of being chamfered.
6. The Transportation Division Personnel shall approve bolt alignment, pole foundation location and elevation prior to the Contractor installing the foundation.
7. Tagging of cable in the ired except for tagging of certain cable as directed
8. The pedestrian signal he crosswalk area (not the curb ramp) that is opposite o a slight downward angle to it.
9. Do not encase the grour in concrete outside of their foundation. Full access s. Permanently mark the top of concrete, if visible, wi be known by others.
10. Any signal support base ea shall be flush with the top of the sidewalk.
11. The Contractor shall not area is at finished grade.
12. Underground conduit and adway areas shall be installed prior to the placement o course.
13. The Contractor shall pro ween the control cabinet and the designated power sou shall be run separately and shall not be bundled with
14. See interconnect schema
15. For continuation of conduit, see sheet(s) XX.
16. Use a separate conduit for each grouping of cables unless otherwise indicated: one conduit for 120VAC signal cable (5C, 7C, 9C); one conduit for power; one conduit for 2 conductor cable (loop & pushbutton); and one conduit for interconnect cable (twisted pair, fiber optics or coax). Any other low voltage cable not specified above can be placed in the 2 conductor cable conduit. Power cable must be in its own conduit.
17. Unless otherwise specified the following shall apply. A preformed PVC conduit elbow shall be used to change the PVC conduit direction beyond what its natural bending flex would yield. Rigid metal conduit can be bent to form an elbow or any other bending angle required only if a proper conduit bending machine is used. The elbow radius for any non–interconnect conduit shall be 24" or larger when used in a horizontal or vertical manner. Any type of elbow used for interconnect conduit shall have a radius of 36" or larger when used in a horizontal direction or in a vertical direction when the trench is 36" or deeper. If the trench is less than 36" then the vertical elbow radius shall be 24".
18. All clamps and banding material shall be painted to match the signal supports.

CONTACT SIGNAL PLAN REVIEWERS FOR CURRENT PLAN SHEET NOTES.



STRAIN POLE / SPAN WIRE
EXAMPLE
PLAN VIEW SHEET 2

3

Hori: 1 inch = 20 feet

CALCULATED ABC
CHECKED ABC

TRAFFIC SIGNAL INSTALLATION PLAN
STREET A AT STREET B

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X
XX

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (NBLT)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
	◄Y	ø1 Y	
	◄G	ø1 G	
2 (NB)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
3 (EBLT)	◄R	ø3 R	R
	◄Y	ø3 Y	
	◄G	ø3 G	
4 (EBLT)	◄R	ø3 R	R
	◄Y	ø3 Y	
	◄G	ø3 G	
5 (EB)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
6 (EBRT)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
	Y►	OLA Y	
	G►	OLA G	
7 (SBLT)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
	◄Y	ø5 Y	
	◄G	ø5 G	
8 (SB)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
9 (WBLT)	R	ø4 R	R
	Y	ø4 Y	
	G	ø4 G	
	◄Y	ø7 Y	
	◄G	ø7 G	
10 (WB)	R	ø4 R	R
	Y	ø4 Y	
	G	ø4 G	
N	WALK	G ø4-W	OFF
	DON'T WALK	R ø4-DW	
S	WALK	G ø8-W	OFF
	DON'T WALK	R ø8-DW	
E	WALK	G ø6-W	OFF
	DON'T WALK	R ø6-DW	
W	WALK	G ø2-W	OFF
	DON'T WALK	R ø2-DW	
OLA=ø1 OLA=LS13			

TIMING CHART

PHASE	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
MOVEMENT	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
MIN INITIAL	8	24	8	10	8	24	8	10
WALK	–	7	–	7	–	7	–	7
PED CHANGE	–	17	–	22	–	17	–	22
PASS / EXT	3.0	2.2/2.1	3.0	3.7	3.0	2.2/2.1	3.0	3.7
YELLOW	3.0	3.9	3.0	3.6	3.0	3.9	3.0	3.6
RED CLR	3.0	1.8	3.0	2.4	3.0	1.8	3.0	2.4
MAX GRN 1	30	50	25	50	30	50	25	50
MAX GRN 2	30	50	25	50	30	50	25	50
PED RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
VEH RECALL	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
MEMORY	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF

DETECTOR ASSIGNMENTS

DET (#)	DETECTOR ASSIGNMENT UNIT (#)	DETECTOR ASSIGNMENT CHANNEL (#)	PHASE	LOOP SIZE (W'xL')	LOOP DELAY DATA DELAY IN SECONDS	LOOP DELAY DATA INHIBIT DELAY DURING GRN ø	DET UNIT RACK & CABLE LABEL LOOP
L1	1	1	ø1	Existing	3	ø1	NBLT
L2A	1	2	ø2	Existing	–	–	SB (N)(L)
L2B	2	1	ø2	Existing	–	–	SB (N)(R)
L2C	2	2	ø2	Existing	–	–	SB (F)(L)
L2D	3	1	ø2	Existing	–	–	SB (F)(R)
L3A	3	2	ø3	5'x33'	3	ø3	EBLT (L)
L3B	4	1	ø3	5'x32'	–	ø3	EBLT (R)
L4	4	2	ø4	Existing	–	ø4	WB
L5	5	1	ø5	6'x25'	3	ø5	SBLT
L6A	5	2	ø6	Existing	–	–	NB (N)(L)
L6B	6	1	ø6	Existing	–	–	NB (N)(R)
L6C	6	2	ø6	Existing	–	–	NB (F)(L)
L6D	7	1	ø6	Existing	–	–	NB (F)(R)
L7	7	2	ø7	Existing	3	ø7	WBLT
L8A	8	1	ø8	5.5'x31'	–	ø8	EB
L8B	8	2	ø8	5'x30'	12	ø8	EBRT

LOOPS ARE TO BE HOOKED TO THE UNIT AND CHANNEL AS INDICATED TO ENHANCE LOOP PERFORMANCE AND DECREASE LOOP CROSSTALK.

GROUNDING & BONDING DIAGRAM LEGEND

- PULL BOX
- POLE — SIGNAL POLE/PEDESTAL
- GROUND ROD AND #4 AWG WIRE
- ATTACHMENT POINT
- CABINET — CONTROLLER CABINET
- CABINET GROUND TERMINAL
- GROUND CLAMP WITH #4 AWG WIRE

DESIGNER NOTES:

7. Phasing Diagram
For new controller cabinets, the phasing diagram shall be according to TSDM Figures 15.6-15.14.
When modifying existing controller cabinets, contact the signal plan reviewers to request the existing phasing and timing info.

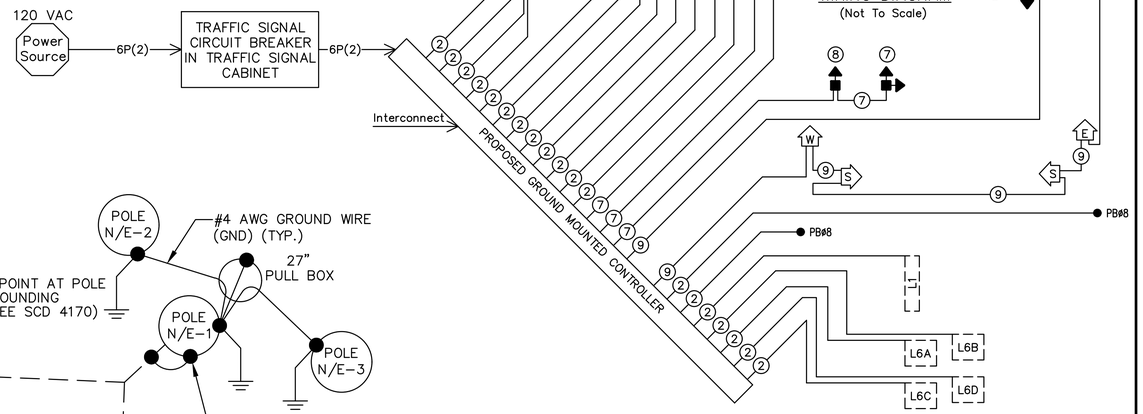
8. Intersection Number
Contact signal plan reviewers to obtain intersection number.

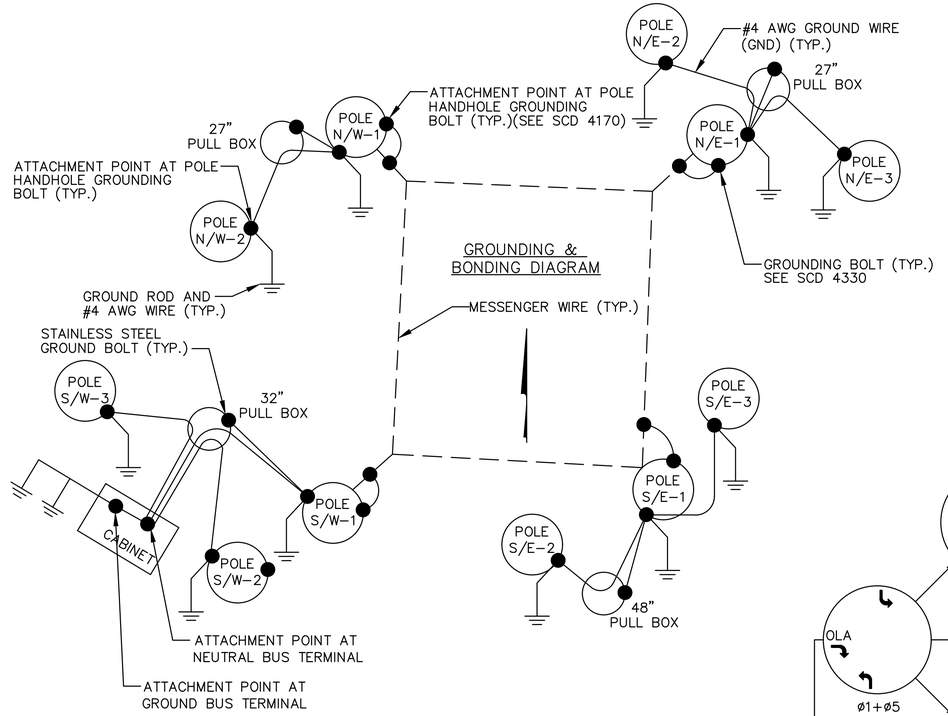
9. Wiring Diagram
The wiring diagram orientation shall match the orientation of the plan view sheet. I.E. if the intersection plan view is orientated with north facing up, the details on this sheet including wiring diagram must be oriented with north facing up.

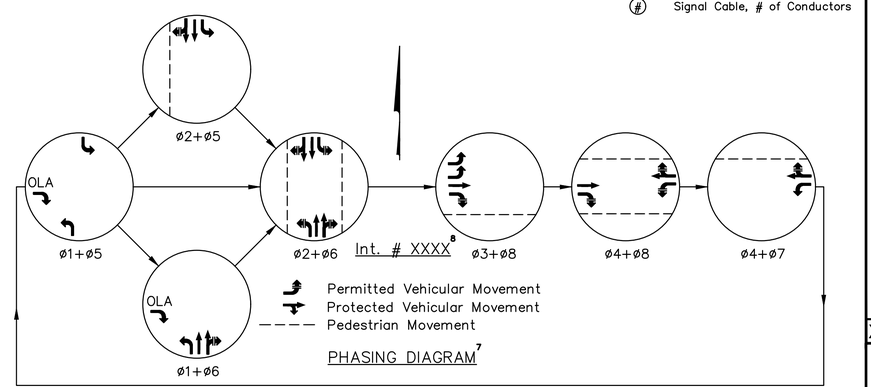
NOTES:

1. SET CONFLICT MONITOR FOR 10 SEC FLASH.
2. LOOP DETECTOR LEAD-IN CABLE SHALL BE USED FOR THE PEDESTRIAN PUSHBUTTONS. GROUND THE SHIELD ONLY AT THE CABINET.
3. SET ALL PRESENCE LOOP CHANNELS TO COUNT MODE. SET ALL 6'x6' LOOP CHANNELS TO PULSE MODE.
4. ALL LOOP SPADE TERMINALS SHALL HAVE THE LOOP HOMERUN WIRE SOLDERED TO THE SPADE TERMINAL. THE LOOP HOMERUN WIRES SHALL BE TWISTED TOGETHER AS CLOSE TO THE SPADE TERMINAL SCREWS AS POSSIBLE. THE CABLE DRAIN WIRE SHALL BE CONNECTED TO THE CLOSEST GROUNDING POI ONNECTION.
5. BACK PANEL WIR
   A) HARD WIRE D. HOOK THE DETECTOR AS INDICATED. GROUND
   B) INSTALL A D PUT AND ø1 'OMIT' TED DURING THE THRC
   C) INSTALL A D PUT AND ø5 'OMIT' INP DURING THE THROUGH
   D) USE DIODES ALS.
   E) INSTALL DIOI WEEN ø4 & ø7 AND ø
6. CONTROLLER SOF
   A) INITIALIZE IN
   B) ENABLE DUAL ENTRY. ACTIVATE ø4 & ø8.
   C) ENABLE SIMULTANEOUS GAP OUT. ACTIVATE ø2, ø4, ø6 & ø8.
7. INTERCONNECT FEEDER CABLE SHALL BE CONTINUOUSLY RUN BETWEEN THE CONTROLLER CABINET AND THE COAX DEVICE. NO SPLICES ARE PERMITTED EXCEPT WHERE NOTED.
8. JUMPER THE NBLT (ø1) VEHICLE CALL INPUT TO THE WB (ø4) VEHICLE CALL INPUT. ROUTE THE JUMPER THROUGH THE NORMALLY CLOSED CONTACTS OF A CUTOUT RELAY WHICH IS POWERED BY THE SBR (ø2 RED) CONTROLLER DC OUTPUT.

CONTACT SIGNAL PLAN REVIEWERS FOR CURRENT DETAIL SHEET NOTES. THESE NOTES SHALL BE LOCATED ON THE SAME SHEET AS THE WIRING DIAGRAM AND DETECTION CHART.







WIRING DIAGRAM LEGEND

- L-X — Existing Detector Loop
- L-X — Proposed Detector Loop
- Proposed Vehicular Signal Head
- X — Pedestrian Signal Head
- PB — Pedestrian Pushbutton
- 6P(2) — 2/C #6 AWG (Power)
- 6P(3) — 3/C #6 AWG (Power)
- (#) — Signal Cable, # of Conductors

STRAIN POLE / SPAN WIRE EXAMPLE DETAIL SHEET

CALCULATED ABC
CHECKED ABC

TRAFFIC SIGNAL DETAILS
STREET A AT STREET B

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

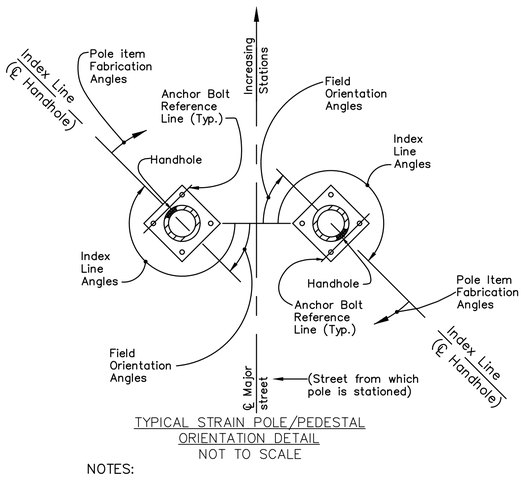
XXXX-E

X
XX

10

INTERSECTION	SHEET NO.	POLE DESIGNATION	POLE COLOR/ FEDERAL STANDARD 595B	POLE SIZES & SPAN ATTACHMENT HEIGHT			POLE FABRICATION DATA CLOCKWISE FROM HANDHOLE AT 0 DEGREES						FIELD ORIENTATION		
				POLE DESIGN NO.	POLE HT. (FT.)	SPAN ATTACHMENT HT. (FT.)	ANCHOR BOLT REF. LINE	2" BHC ANGLE–HT. DEG.–FT.	3" BHC ANGLE–HT. DEG.–FT.	PED. SIGNALS	PED. PUSH BUTTON	STREET NAME SIGN	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	FOUNDATION ELEVATION*
		S/W–1		8	32'	28.5'	90°	–	29' – 180°	–	–	225°	225°	135°	SEE SHEET XX
		S/W–2		PEDESTAL	10.7'	–	90°	–	–	203°	180°	–	148°	58°	SEE SHEET XX
		S/W–3		PEDESTAL	10.7'	–	90°	–	–	262°	–	–	198°	108°	SEE SHEET XX
STREET A															
AT	XXX	N/W–1		8	30'	27'	90°	28' – 180°	–	223°	251°	225°	134°	44°	SEE SHEET XX
STREET B															
		N/W–2		PEDESTAL	10.7'	–	90°	–	–	99°	–	–	171°	81°	SEE SHEET XX
		N/E–1	SEMI–GLOSS BLACK #27038	8	32'	28.5'	90°	29' – 180°	–	–	–	225°	224°	134°	729.12
		N/E–2		PEDESTAL	10.7'	–	90°	–	–	105°	90°	–	242°	152°	SEE SHEET XX
		N/E–3		PEDESTAL	10.7'	–	90°	–	–	240°	–	–	217°	127°	SEE SHEET XX
		S/E–1		8	31'	26' E/26.5' S	90°	27.5 – 180°	–	130°/226°	–	225°	135°	45°	728.99
		S/E–2		PEDESTAL	5'	–	90°	–	–	–	180°	–	203°	113°	SEE SHEET XX
		S/E–3		PEDESTAL	10.7'	–	90°	–	–	215°	–	–	55°	145°	SEE SHEET XX

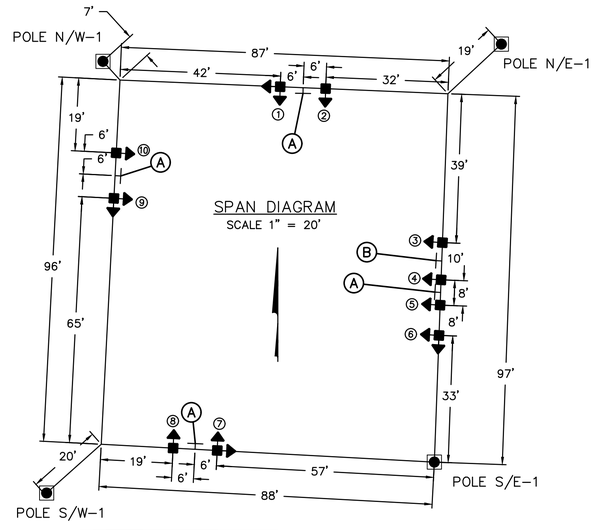
* The designer may list a "See Sheet #" in this column containing the sheet # of the detailed elevations of the Intersection Detail and/or Curb Ramp Detail Sheets.



TYPICAL STRAIN POLE/PEDESTAL ORIENTATION DETAIL
NOT TO SCALE

NOTES:
All angles measured clockwise.
Index line goes through the center of the handhole.

TYPICAL SIGNAL ELEVATION [11]
NOT TO SCALE



NOTES:

1. The lowest signal head height in each direction shall be set at 16.5 feet (17' Prefe CONTACT SIGNAL PLAN REVIEWERS
2. The FOR CURRENT PLAN SHEET NOTES.gram are estimates. Final head positions shall be on the lane line, channel line or on the lane centerline. The distance between the heads are as indicated.

DESIGNER NOTES:
10. Pole Fabrication Chart
Example pole fabrication charts from the TSDM can be downloaded from the website as .dwg files.

When a plan set contains more than one signal, the pole fabrication charts shall be combined into a single chart. This chart shall be located after the last detail sheet of the last intersection.

For projects with both mast arms and strain pole/span wire installations, a separate chart shall be used for each type of support.

11. Typical Signal Elevation
Example typical signal elevation details from the TSDM can be downloaded from the website as .dwg files.

12. Sheet Label
For plans with one signal included in the pole fabrication chart, the sheet label shall also include the intersection name.

SPAN WIRE POLE FABRICATION AND ORIENTATION DETAIL SHEET

CALCULATED ABC
CHECKED ABC

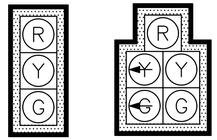
POLE FABRICATION AND ORIENTATION DETAILS [12]

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X
XX

PROPOSED VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION



12" HEADS 2, 3, 4, 6, 7 & 8

12" HEADS 1 & 5

PEDESTRIAN SIGNAL HEAD CONFIGURATION

STREET NAME SIGN DETAIL

18" x Varies Street A Pole Mt'd. (A)

18" x Varies Street B Pole Mt'd. (B)

NOTES:

1. The Contractor shall ensure that all sidewalks/pathways meet ADA guidelines per City specifications.
2. Power, service and interconnect cable shall be continuous with no splices except as noted.
3. For signing and pavement markings, see sheet(s) XX & XX.
4. The top of the pole base foundation shall be edged using a 1/2" sidewalk edger instead of being chamfered.
5. The Transportation Division Personnel shall approve bolt alignment, pole foundation location and elevation prior to the Contractor installing the foundation.
6. Tagging of cable in the pullbox next to the control cabinet is not required except for tagging of certain cable as directed by the Project Engineer or as per plan
7. The pedestrian signal head shall be aimed at the centerline of the crosswalk area (not the curb ramp) that is opposite of the pedestrian signal head. The pedestrian signal heads shall also have a slight downward angle to it.
8. Do not encase the ground rod, the grounding wire or the EMT conduit in concrete outside of their foundation. Full access to these items must be maintained at all times. Permanently mark the top of foundation concrete, if visible, with a marker or symbol so the rod location can be known by others.
9. Any signal support base foundation within or adjacent to a sidewalk area shall be flush with the top of the sidewalk.
10. The Contractor shall not install pole foundations until the pole location area is at finished grade.
11. Underground conduit and trench that are under proposed sidewalk or road lacement of sidewalk rse.
12. The Cont CONTACT SIGNAL PLAN REVIEWERS FOR CURRENT PLAN SHEET NOTES. een the control cabinet ed and installed by Pow separately and shall nc
13. See inter onnect items.
14. For continuation of conduit, see sheet(s) XXX and XXX.
15. The control cabinet door shall be located on the south side of the cabinet.
16. The top surface of a cabinet foundation located in sidewalk areas shall be 4" above the surrounding walk. Expansion material shall be used between all foundations and adjacent sidewalk.
17. Use a separate conduit for each grouping of cables unless otherwise indicated: one conduit for 120VAC signal cable (5C, 7C, 9C, GND); one conduit for power; one conduit for 2 conductor cable (loop & pushbutton); and one conduit for interconnect cable (twisted pair, fiber optics or coax). Any other low voltage cable not specified above can be placed in the 2 conductor cable conduit. Power cable must be in its own conduit.
18. Unless otherwise specified the following shall apply. A preformed PVC conduit elbow shall be used to change the PVC conduit direction beyond what its natural bending flex would yield. Rigid metal conduit can be bent to form an elbow or any other bending angle required only if a proper conduit bending machine is used. The elbow radius for any non-interconnect conduit shall be 24" or larger when used in a horizontal or vertical manner. Any type of elbow used for interconnect conduit shall have a radius of 36" or larger when used in a horizontal direction or in a vertical direction when the trench is 36" or deeper. If the trench is less than 36" then the vertical elbow radius shall be 24".
19. All clamps and banding material shall be painted to match the signal supports.

DESIGNER NOTES:

1. Sheet Label
The traffic signal plan view sheet shall be labeled as:
-TRAFFIC SIGNAL INSTALLATION PLAN (Full rebuilds or new signals) or
-TRAFFIC SIGNAL MODIFICATION PLAN
The intersection shall be labeled in alphabetical order (i.e. Aaa Parkway at Bbb Road)

2. Legend
Include only the symbols applicable to sheet. For a full list of symbols, see TSDM Figure 2.1.

3. North Arrow
The traffic signal plan shall be oriented with north facing up or to the right.

4. Detail Blowup
Corner blowups should be included whenever a smaller scale is required in order to reasonably follow callout leaders or distinguish signal items and other infrastructure. Detail blow ups should be 10 scale and should be on the plan view page. If necessary, the plan sheet notes should be moved to the detail sheet to make room for the detail blow up.

5. Plan Sheet Notes
Plan sheet notes should be placed on the plan sheet as space allows. If necessary, the plan sheet notes may be placed on the following detail sheet.

6. Stop Line and Detection Zone/Loop Stationing
The back edge of the stop line and the forward edge of the detection zone or loop shall be labeled with the stationing as shown (i.e. +XX')

POLE N/W-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 105+33.1, 45.4' LT.

(1)-2" CONDUIT W/(2)-7/C & (1)-GND
(1)-2" CONDUIT - EMPTY
IN TRENCH = 13'

PULL BOX, 27"
STA. 105+30.0, 32.5' LT.

(1)-2" CONDUIT W/(1)-2/C, (1)-CAMERA & (1)-RADAR
(1)-2" CONDUIT W/(2)-7/C, & (3)-GND
IN TRENCH = 20'

POLE N/W-1 COMBINATION SIGNAL SUPPORT W/DEEP FOUNDATION (18')
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-STOP LINE RADAR UNIT (EB)
W/(1)-25' BRACKET ARM
W/(1)-TRAFFIC FLOW MONITOR
STA. 105+11.3, 27.9' LT.

Sta. 101+71, 21' RT. Pole Mt'd.
W3-3-36 NEW W16-15P-24

PROPOSED INTERCONNECT
CONDUIT BANK
SEE INTERCONNECT PLAN SHEET XXX.

POLE S/W-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-PEDESTRIAN PUSHBUTTON
STA. 105+12.7, 27.2' RT.

(1)-2" CONDUIT W/(1)-2/C
(1)-2" CONDUIT W/(1)-7/C, & (1)-GND
IN TRENCH = 14'

PULL BOX, 32"
STA. 105+22.5, 35.9' RT.

(1)-2" CONDUIT W/(3)-7/C & (3)-GND
(1)-2" CONDUIT W/(1)-RADAR
IN TRENCH = 15'

POLE S/W-1 SIGNAL SUPPORT
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-STOP LINE RADAR UNIT (NB)
STA. 105+30.1, 48.6' RT.

(1)-2" CONDUIT W/(2)-7/C, & (1)-GND
(1)-2" CONDUIT W/(1)-2/C & (1)-RADAR
(1)-1.5" CONDUIT W/TRACING WIRE
(4)-3" CONDUITS (SEE INTERCONNECT PLAN)
ENCASED CONDUIT BANK = 68'

STREET A

STREET B

(1)-2" CONDUIT W/(1)-2/C, (1)-CAMERA & (1)-RADAR
(1)-2" CONDUIT W/(2)-7/C & (1)-GND
DIRECTIONALLY DRILLED UNDER PAVEMENT = 60'

POLE N/E-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 105+85.8, 44.9' LT.

(1)-2" CONDUIT W/(2)-7/C & (2)-GND
(1)-2" CONDUIT - EMPTY
IN TRENCH = 12'

PULL BOX, 27"
STA. 105+90.2, 32.9' LT.

(1)-2" CONDUIT W/(2)-2/C, (1)-CAMERA & (2)-RADAR
(1)-2" CONDUIT W/(1)-9/C, (2)-7/C & (1)-GND
ENCASED IN TRENCH = 67'

(1)-2" CONDUIT W/(1)-2/C & (1)-RADAR
(1)-2" CONDUIT W/(1)-9/C, (2)-7/C, & (3)-GND
IN TRENCH = 20'

POLE N/E-1 SIGNAL SUPPORT
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-STOP LINE RADAR UNIT (SB)
STA. 106+06.9, 24.9' LT.

R10-3A-9 (L) PUSH BUTTON TO CROSS STREET WAIT FOR — N/W-1 S/E-1

R10-3A-9 (R) PUSH BUTTON TO CROSS STREET WAIT FOR — N/E-1 S/W-2

W16-15P-24 NEW W3-3-36

Sta. 109+55, 19' LT. Pole Mt'd.

POLE S/E-1 SIGNAL SUPPORT
W/(1)-PEDESTRIAN PUSHBUTTON
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-STOP LINE RADAR UNIT (WB)
STA. 106+05.9, 30.9' RT.

PROPOSED INTERCONNECT
CONDUIT BANK
SEE INTERCONNECT PLAN SHEET XXX.

(1)-2" CONDUIT W/(2)-2/C & (1)-RADAR
(1)-2" CONDUIT W/(2)-9/C, (1)-7/C, & (3)-GND
IN TRENCH = 15'

PULL BOX, 32"
STA. 105+90.4, 33.9' RT.

(1)-3" CONDUIT W/INTERCONNECT CABLES
(1)-3" CONDUIT W/(1)-9/C, (5)-7/C, & (3)-GND
(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(3)-2/C, (1)-CAMERA & (4)-RADAR
ENCASED IN TRENCH = 22'

(1)-2" CONDUIT - EMPTY
(1)-2" CONDUIT W/(2)-7/C & (1)-GND
IN TRENCH = 15'

POLE S/E-2 PEDESTRIAN PEDESTAL, 10.7'
W/(1)-PEDESTRIAN SIGNAL HEAD
STA. 105+83.9, 49.8' RT.

GROUND MOUNTED CONTROLLER
STA. 105+85.8, 59.4' RT.

(1)-2" CONDUIT W/(1)-2/C POWER & (1)-GND
ENCASED IN TRENCH = 8'

POWER METER CABINET
STA. 36+89.7, 24.9' RT.

(1)-2" CONDUIT W/(1)-3/C POWER
ENCASED IN TRENCH = 14'

EX. POWER COMPANY PAD
MOUNTED TRANSFORMER
(PROP. POWER SOURCE)
STA. 36+81.2, 23.0' RT.

LEGEND²

SIGNAL HEADS: PROP. VEHICULAR HEAD — EX. VEHICULAR HEAD
PROP. PEDESTRIAN HEAD — EX. PEDESTRIAN HEAD
SIGNAL POLES: PROP. ANCHOR/STRAIN POLE — EX. ANCHOR/STRAIN POLE
EX. EMBEDDED POLE — EX. WOOD POLE — GUY ANCHOR
PROP. PEDESTAL — EX. PEDESTAL — PUSHBUTTON
CONTROLLERS & CABINETS: EX. CABINET W/PAD — PROP. CABINET W/PAD
EX. CABINET (NO PAD) — PROP. CABINET (NO PAD)
PULL BOXES: EX. PULL BOX
PROP. PULL BOX
DETECTION: STOP LINE RADAR UNIT — DILEMMA ZONE RADAR
VIDEO CAMERA — DETECTION ZONE Z1A
LOOP DETECTOR L1A

MAST ARM EXAMPLE
PLAN VIEW SHEET

N

Horiz: 1 inch = 20 feet

CALCULATED ABC CHECKED ABC

TRAFFIC SIGNAL INSTALLATION PLAN
STREET A AT STREET C'

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X/XX

FIELD WIRING HOOK–UP CHART

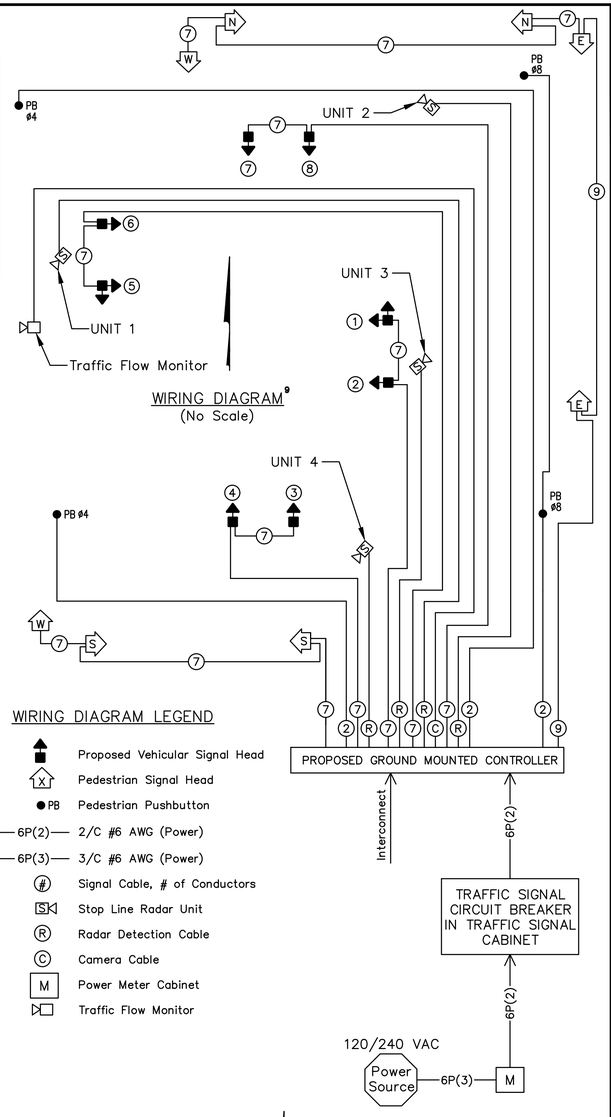
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (EBLT)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
	~~Y~~	ø1 Y	
	~~G~~	ø1 G	
2 (EB)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
3 & 4 (SB)	R	ø4 R	R
	Y	ø4 Y	
	G	ø4 G	
5 (WBLT)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
	~~Y~~	ø5 Y	
	~~G~~	ø5 G	
6 (WB)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
7 & 8 (NB)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
N	WALK	G ø2–W	OFF
	DON'T WALK	R ø2–DW	
S	WALK	G ø6–W	OFF
	DON'T WALK	R ø6–DW	
E	WALK	G ø8–W	OFF
	DON'T WALK	R ø8–DW	
W	WALK	G ø4–W	OFF
	DON'T WALK	R ø4–DW	

TIMING CHART

PHASE	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
MOVEMENT	EBLT	WB	NBLT	SB	WBLT	EB	SBLT	NB
MIN INITIAL	7	20	–	10	7	20	–	10
WALK	–	7	–	7	–	7	–	7
PED CHANGE	–	10	–	11	–	11	–	11
PASS / EXT	3.7	3.7	–	3.7	3.7	3.7	–	3.7
YELLOW	3.0	3.6	–	3.0	3.0	3.6	–	3.0
RED CLR	3.0	1.7	–	2.8	3.0	1.7	–	2.9
MAX GRN 1	15	40	–	20	15	40	–	20
MAX GRN 2	15	40	–	20	15	40	–	20
PED RECALL	OFF	ON	–	OFF	OFF	ON	–	OFF
VEH RECALL	OFF	MIN	–	OFF	OFF	MIN	–	OFF
MEMORY	OFF	ON	–	OFF	OFF	ON	–	OFF

DETECTION ASSIGNMENTS

DETECTOR	RADAR DETECTOR	PHASE	SIZE	PRESENCE	PURPOSE	DELAY DATA	
						DELAY (SEC.)	INHIBIT DELAY DURING GREEN ø
Z1	1	ø1	5'x25'	X	CALL/EXTEND	3	ø1
Z2	3	ø2	5.5'x5.5'	X	CALL/EXTEND	–	–
Z4A	2	ø4	5'x40'	X	CALL/EXTEND	3	ø4
Z4B	2	ø4	5.5'x40'	X	CALL/EXTEND	8	ø4
Z5	3	ø5	5'x25'	X	CALL/EXTEND	3	ø5
Z6	1	ø6	5.5'x5.5'	X	CALL/EXTEND	–	–
Z8A	4	ø8	5'x40'	X	CALL/EXTEND	3	ø8
Z8B	4	ø8	5.5'x40'	X	CALL/EXTEND	8	ø8

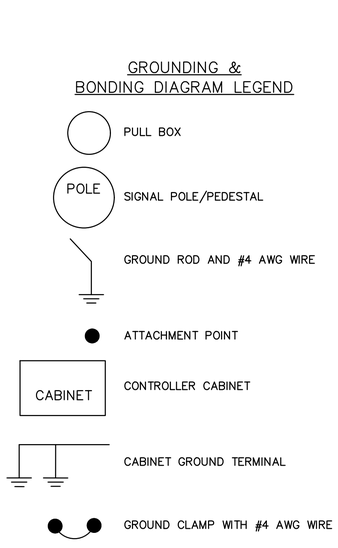


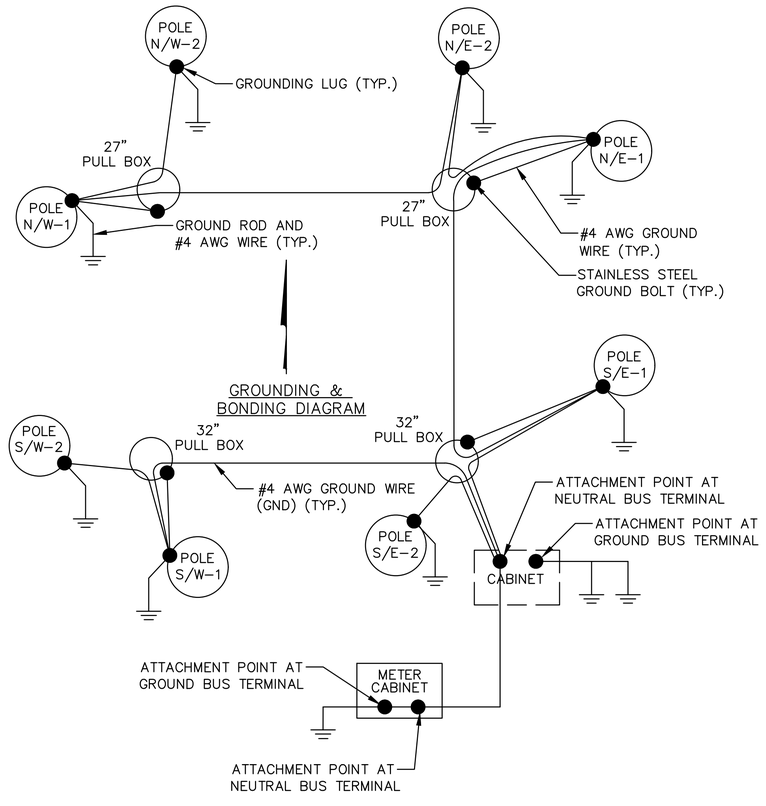
WIRING DIAGRAM[9]
(No Scale)

WIRING DIAGRAM LEGEND

- Proposed Vehicular Signal Head
- X — Pedestrian Signal Head
- PB — Pedestrian Pushbutton
- 6P(2) — 2/C #6 AWG (Power)
- 6P(3) — 3/C #6 AWG (Power)
- (#) — Signal Cable, # of Conductors
- SK — Stop Line Radar Unit
- R — Radar Detection Cable
- C — Camera Cable
- M — Power Meter Cabinet
- Traffic Flow Monitor

GROUNDING & BONDING DIAGRAM LEGEND





NOTES:

1. SET CONFLICT MONITOR FOR 10 SEC FLASH.
2. LOOP DETECTOR LEAD–IN CABLE SHALL BE USED FOR THE PEDESTRIAN PUSHBUTTONS. GROUND THE SHIELD ONLY AT THE CABINET.
3. BACK PANEL WIRING (FRONT SIDE JUMPERS ONLY)
   A) HARD WIRE … HOOK THE DETECTC … AS INDICATED. GROUND …
   B) INSTALL A … OUT AND ø1 'OMIT … ED DURING THE THR …
   C) INSTALL A … OUT AND ø5 'OMIT' IN … DURING THE THROUGI …
   D) USE DIODE … ALS.
4. CONTROLLER SOFTWARE PROGRAMMING
   A) INITIALIZE IN ø2 & ø6 GREEN
   B) ENABLE DUAL ENTRY. ACTIVATE ø4 & ø8.
   C) ENABLE SIMULTANEOUS GAP OUT. ACTIVATE ø2, ø4, ø6 & ø8.

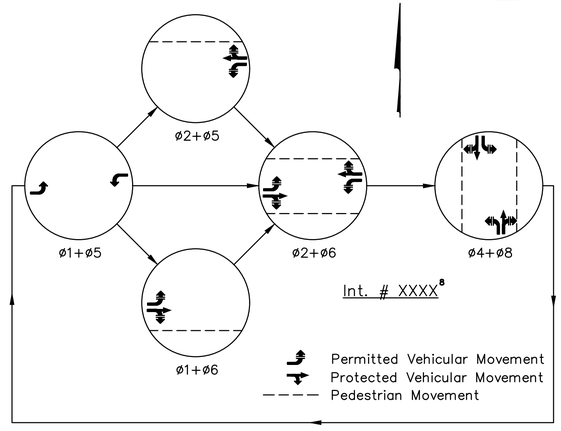
CONTACT SIGNAL PLAN REVIEWERS FOR CURRENT DETAIL SHEET NOTES. THESE NOTES SHALL BE LOCATED ON THE SAME SHEET AS THE WIRING DIAGRAM AND DETECTION CHART.

DESIGNER NOTES:

7. Phasing Diagram
For new controller cabinets, the phasing diagram shall be according to TSDM Figures 15.6-15.14.
When modifying existing controller cabinets, contact the signal plan reviewers to request the existing phasing and timing info.

8. Intersection Number
Contact signal plan reviewers to obtain intersection number.

9. Wiring Diagram
The wiring diagram orientation shall match the orientation of the plan view sheet. I.E. if the intersection plan view is orientated with north facing up, the details on this sheet including wiring diagram must be oriented with north facing up.



PHASING DIAGRAM[7]

MAST ARM EXAMPLE DETAIL SHEET

CALCULATED ABC
CHECKED ABC

TRAFFIC SIGNAL DETAILS
STREET A AT STREET C

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

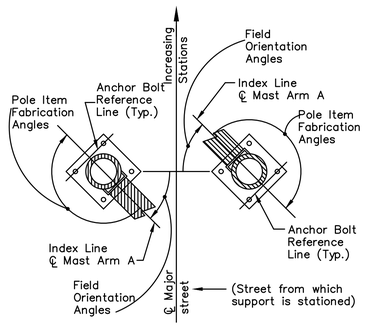
XXXX-E

X
XX

10

INTERSECTION	SHEET NO.	SUPPORT DESIGNATION	POLE COLOR/ FEDERAL STANDARD 595B	POLE DESIGN NO.	POLE HT. (FT.)	MAST ARM LENGTH (FT.)	OBJECT ATTACHMENT HEIGHT			DISTANCE FROM BUTT PLATE (FT.)			POLE FABRICATION DATA–CLOCKWISE FROM MAST ARM A AT 0 DEGREES						FIELD ORIENTATION		
							MASTARM (FT.)	RADAR DETECTOR (FT.)	BRACKET ARM	L1	L2	S1	ANCHOR BOLT REFERENCE LINE	PED. SIGNALS	PED. PUSH BUTTON	BRACKET ARM	STREET NAME SIGNS	HANDHOLE	INDEX LINE ANGLE MAST ARM A	ANCHOR BOLT REF. LINE	FOUNDATION ELEVATION*
		S/E–1		4	21'	32'	19.5'	18'	–	12.5'	23.5'	–	90°	264°	255°	–	0°	180°	0°	90°	SEE SHEET XX
STREET A	##																				
AT		S/E–2		Pedestal	10.7'	–	–	–	–	–	–	–	90°	162°	–	–	–	0°	198°	108°	SEE SHEET XX
STREET C																					
		S/W–1		4	21'	32.5'	19.5'	18'	–	14'	24'	–	90°	264°	–	–	0°	180°	90°	0°	SEE SHEET XX
		S/W–2		Pedestal	10.7'	–	–	–	–	–	–	–	90°	165°	165°	–	–	0°	285°	195°	SEE SHEET XX
			SEMI–GLOSS																		
		N/W–1	BLACK	4	27'	32.5'	19.5'	18'	25'	13'	24'	–	90°	264°	257°	0°	0°	180°	0°	90°	SEE SHEET XX
			#27038																		
		N/W–2		Pedestal	10.7'	–	–	–	–	–	–	–	90°	164°	–	–	–	0°	196°	106°	SEE SHEET XX
		N/E–1		14	21'	50.5'	19.5'	18'	–	32'	42'	–	90°	8°	5°	–	0°	180°	90°	0°	SEE SHEET XX
		N/E–2		Pedestal	10.7'	–	–	–	–	–	–	–	90°	195°	–	–	–	0°	165°	75°	SEE SHEET XX

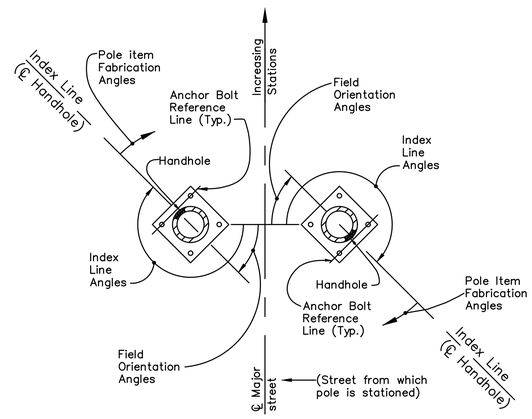
* The designer may list a "See Sheet #" in this column containing the sheet # of the detailed elevations of the Intersection Detail and/or Curb Ramp Detail Sheets.



All angles measured clockwise.

Base plate is oriented square to Mast Arm A. Mast Arm A is the largest arm if the support has two mast arms.

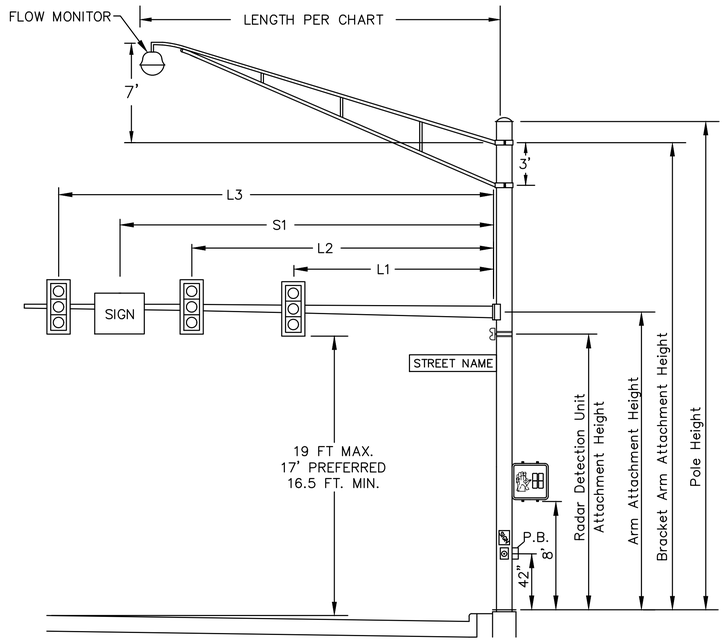
TYPICAL SIGNAL SUPPORT ORIENTATION DETAIL



NOTES:
All angles measured clockwise.

Index line goes through the center of the handhole.

TYPICAL PEDESTAL ORIENTATION DETAIL
NOT TO SCALE



TYPICAL SIGNAL ELEVATION DETAIL[11]

DESIGNER NOTES:
10. Pole Fabrication Chart
Example pole fabrication charts from the TSDM can be downloaded from the website as .dwg files.

When a plan set contains more than one signal, the pole fabrication charts shall be combined into a single chart. This chart shall be located after the last detail sheet of the last intersection.

For projects with both mast arms and strain pole/span wire installations, a separate chart shall be used for each type of support.

11. Typical Signal Elevation
Example typical signal elevation details from the TSDM can be downloaded from the website as .dwg files.

12. Sheet Label
For plans with one signal included in the pole fabrication chart, the sheet label shall also include the intersection name.

MAST ARM POLE FABRICATION AND ORIENTATION DETAIL SHEET

CALCULATED ABC
CHECKED ABC

POLE FABRICATION AND ORIENTATION DETAILS

IMPROVEMENTS OF...
STREET A FROM STREET B TO STREET C

XXXX-E

X
XX